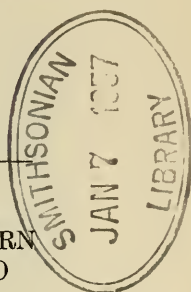


PROCEEDINGS  
OF THE  
BIOLOGICAL SOCIETY OF WASHINGTON



TWO NEW SPECIES OF CINARA FROM NORTHERN  
ARIZONA WITH ILLUSTRATIONS OF HITHERTO  
UNFIGURED SPECIES AND NOTES  
ON SCHIZOLACHNUS FLOCCULOSA (WILLIAMS)  
(APHIDAE)

By F. C. HOTTES

The material from which Williams described his *Lachnus flocculosa* has been believed to be lost for many years. The discovery of two of the original slides in the Aphid collection of the United States National Museum makes *Schizolachnus pini-radiatae* (D) a synonym, and enables us to recognize the species described by Williams for the first time.

The two species described as new are from the region of the Grand Canyon, Arizona.

*Cinara grande* n. sp.

*Apterous viviparous female.*

Size and general color.—Length from vertex to end of anal plate varying from 4.80-5.10mm. Color in life not recorded. Color of cleared specimens as follows: head and prothorax dark dusky brown the dusky brown extending on to the lateral portions of the meso and metathorax. Spiracles located on abdomen within large patches of dusky brown. Cornicles very dark brown except for the base of the hairs, where the cornicles are light in color. Cauda, anal plate, and genital plate, very dark dusky brown, transverse pigmented spots anterior to cauda similar. Rest of dorsum of abdomen free from pigmented areas, except for pigment associated with wax pore plates, and the very dark pigmented areas associated with the base of the hairs, areas which are not much larger than the diameter of the hairs. First antennal segment concolorous with head, second antennal segment not quite so dark. Third and fourth antennal segments pale, except for apical region which is dusky brown. Fifth and sixth antennal segments with only base pale, remainder dusky brown. Clypeus much darker than head. Coxae almost black. Femora with basal one fourth dusky yellow remainder black, or brownish-black. Tibiae black with a short region of brownish-black on basal half. Prothoracic tibiae with much less brownish black, and sometimes with none. Tarsal segments not quite as dark as apex of tibiae.

*Head and thorax.*—Length of antennal segments as follows: III .70-.75mm., IV .18-.21mm., V .30-.35mm. VI .20-21+ .05-.06mm. Third an-

tennal segment without sensoria, fourth antennal segment with or without one sensorium, fifth antennal segment with primary and one secondary sensorium. Primary sensorium on sixth segment very tuberculate. Marginal sensoria with wide margins, irregular in size, of two types, the larger with an open center, the smaller with only a dot. Hair on antennae numerous, fine, varying in length from .10-.15mm. quite upstanding, but poorly mounted. Long hair on sixth segment not extending beyond middle of segment. Unguis short but nail-like. Hair on vertex and dorsum of head numerous, slightly longer than that on antennae. Rostrum not fully extended, but known to extend beyond metathoracic coxae. Length of pro and metathoracic femora as follows: 1.95, 2.47-2.62mm. Length of first metatarsal segment .12mm. length of second metatarsal segment .42mm. Hair on femora fine, numerous, upstanding. Hair on outer margin of hind tibiae more numerous than hair on inner margin, except at apex of segment where the hair on the inner margin are more numerous than the hair on the outer margin. Hair on outer margin quite upstanding, about .15mm. in length, hair on inner margin not quite so long, and slightly finer. First tarsal segment with about eight hairs on the ventral surface, the dorsal surface of this segment is shorter than the length of the union between this segment and the second. Hairs on the dorsal surface of the second segment fewer than those on the ventral surface and much longer.

*Abdomen*.—Width of base of cornicles about .38mm. quite regular in outline. Entire surface of cornicle with numerous hairs which are about .10mm. in length, except on the rim where they are much shorter. All hairs on the cornicles arise from clear areas. Hairs on the dorsal and ventral surfaces of the abdomen similar in character and length, numerous on both surfaces, about as long as those on the cornicles. Pigmented areas anterior to cauda with widely spaced hairs, on posterior half. Genital plate crescent-shaped, with the hairs more numerous at the ends. Dorsum of abdomen with a setulose surface arranged in the form of transverse reticulations. This condition is difficult to see, except in regions which are favorable.

Host *Abies concolor*. Taken on the North Rim of the Grand Canyon, Arizona June 7, 1954. Collected by J. W. Bongberg. Holotype apterous viviparous female returned to the collection of The United States National Museum.

This species may be differentiated from *C. sonata* H. and *C. abieticola* (Chol.) by the absence of pigmented spots on the abdomen, by not having coarse and fine hairs on the cornicles, from *sonata* it may be differentiated further by having the base of the cornicles smaller and more regular in outline. From *C. alacra* H & E it differs in having longer tibial hairs, only one kind of hairs on the cornicles, and much more numerous hairs on the antennae, and in the shape of the unguis.

*Cinara poketa* n. sp.

*Apterous viviparous female.*

Size and general color.—Length from vertex to end of anal plate 2.60mm. Color in life very dark brownish-black, shining, with neither powder or pruinose covering. First and second antennal segments concolorous with head, remaining antennal segments shading from pale yellowish to dusky brown at the apex. Femora with exception of extreme

base deep brownish-black. Tibiae black with a brownish-black area on basal half. Cornicles two toned dusky brown.

*Head and thorax.*—Length of antennal segments as follows: III .37mm., IV .15mm., V .19mm., VI .10+.03mm. Third antennal segment with one small sensorium which is rather far removed from end of segment, and may not be a primary sensorium. Fourth antennal segment with primary sensorium very small. Fifth antennal segment with one secondary sensorium and the primary. Antennal hair sparse, upstanding, varying in length from less than one half width of segment to just equal to the width of segment. Hair on dorsum of head and on vertex similar to that on antennae. Transverse suture of head narrow. Rostrum most likely not fully extended, but reaching to end of methathoracic coxae. Last three segments of the rostrum with the following lengths: .17, .16., .08mm. Length of pro meso and metathoracic femora as follows: .075, .66, .775mm. Length of pro meso and metathoracic tibiae as follows: .87, .90, 1.50mm. Length of hind tarsal segments .08 and .24mm. Both anterior and posterior margins of femora with similar hair, which are about as long as the hair on the third antennal segment. Hind tibiae strongly curved. The hind tibiae are provided with comparatively few rather widely spaced hairs, the hairs varying in length from .04 to .05mm. all being shorter than the width of the tibiae, the ratio of hair length to width of tibiae being 3-4 to 5. The hairs on the outer margin of the tibiae are dull at the end, hence the length given may not represent the total length of these hairs. Hair on inner margin of hind tibiae sharp-pointed for the most part, increasing in length near the apex of the tibiae, but still shorter than the width of the tibiae at this point. First tarsal segment with about ten hairs on the ventral surface.

*Abdomen.*—Cornicles with base measuring only .20mm. across. Outer rim of cornicles with some clear areas. Total number of hairs on cornicles varying from three to four. Cornicles very shallow. Dorsum of abdomen with comparatively few short rather spine-like hairs. Hairs on ventral surface of abdomen slightly longer than those on the dorsum, much more numerous. Genital plate deeply excavated on posterior margin, hairs on genital plate few and short, confined largely to ends. Pigmented spots anterior to cauda extremely narrow, hardly longer than the four hairs on the posterior margin. Cauda and anal plate provided with long hairs.

Holotype apterous viviparous female. Host, *Pinus edulis* Aug. 24, 1956. Taken at point where road to Anita, Arizona branches from Highway 64 leading to Grand Canyon, Arizona. The specimens of this species feed on the small branches which are free from needles.

In nature this species is suggestive of *C. atra* G & P from which it may be differentiated at once by the more numerous hairs on the dorsum, the more shallow cornicles, the shorter hairs on the ventral surface of the first tarsal segment, and the dull hairs on the outer margin of the tibiae.

*Schizolachnus flocculosa* (Williams)  
*Lachnus flocculosa* W. 1911.

*Schizolachnus pini-radiatae* (Davidson) new synonymy. Among unidentified Aphid slides sent me for determination by Miss Louise M. Russell of the United States National Museum were two slides from the



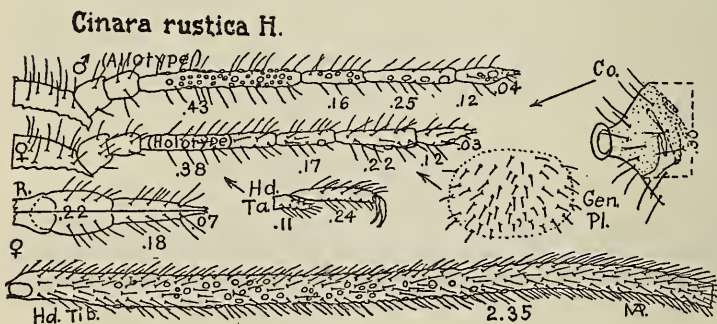
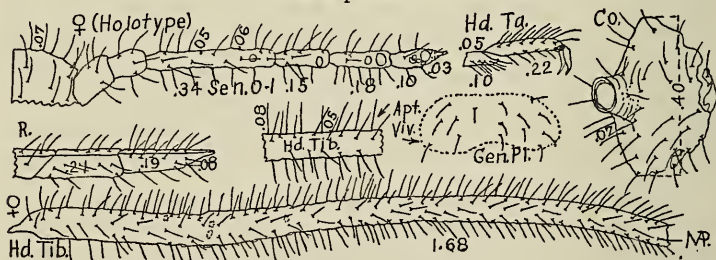
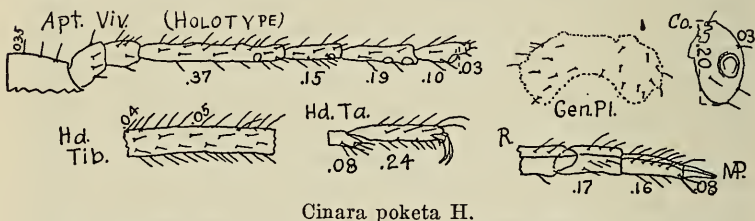
collection of T. W. Williams, whose paper on the Aphididae of Nebraska was published posthumously in 1911. These slides carry the data "On *Pinus ponderosa*, War Bonnet Canyon, 6/23/90. One slide carries the name *Lachnus flocculosus* n. sp. The other slide is indicated by *Schizoneura* sp.? Both slides carry specimens of the species described by Davidson as *Lachnus pini-radiatae*.

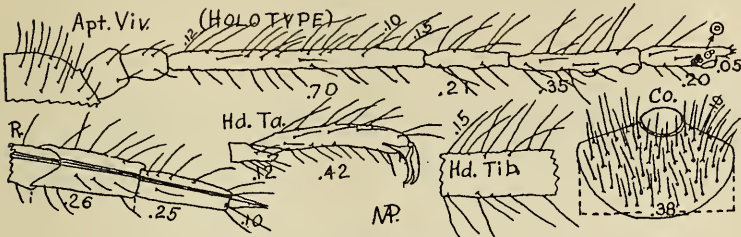
The original description of this species published under Williams's name carries the notation that there are no specimens in either the Nebraska or United States National Museum collections. This description also states that alate specimens were not found.

J. J. Davis in his "Williams The Aphididae of Nebraska A Critical Review" states that slides bearing specimens of this species are probably lost.

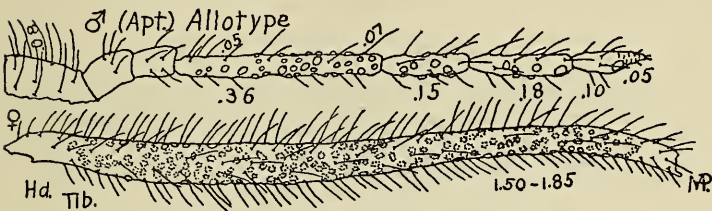
Both slides in the United States National Museum collection carry the Williams number 75. The slide indicated as *Schizoneura* sp. has an alate viviparous female mounted on it.

Lectotype, apterous viviparous female, mounted on slide indicated by name *Schizoneura* sp. in the writing of Williams. It will be noted that the species is spelled *flocculosa* in the original description, not as on the slide.

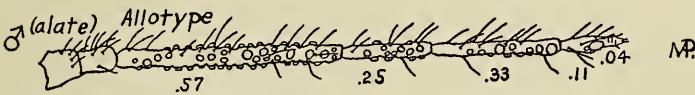




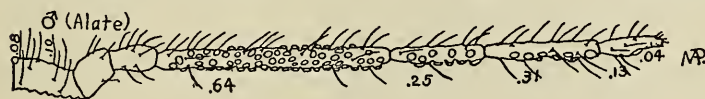
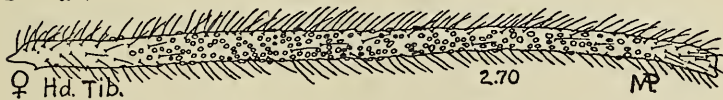
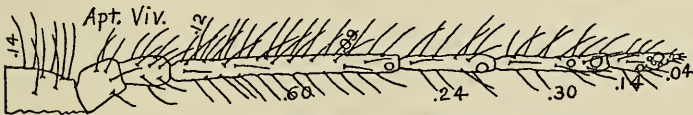
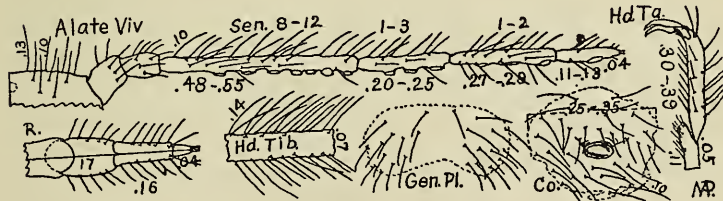
*Cinara grande* H.



*CINARA nitidula* H.



*CINARA wahtolca* H.



*Cinara anzai* H. & E.